

Figure 1

SEQ ID NO:25	(gi 2969887)	MAG-----	PEADNRHRGGATAAPP-----	60
SEQ ID NO:26	(gi 2723471)	MARGSGAGGGGGG	-----GGGLEL-----	
SEQ ID NO:27	(gi 542020)	MQS-----	-----STSKENKQPPSSQPPPLMVAGAAE	
SEQ ID NO:28	(gi 1935019)	MEP-----	-----LSSTKQINNNNNLAKPSSLHVETQP-	
SEQ ID NO:2		MARG-----	DG-----GQLAEL-----SAGVRG-----AAAVVDH	
SEQ ID NO:4		HE-----	-----	
SEQ ID NO:6		AA-----	-----	
SEQ ID NO:8		-----	-----DH-----	
SEQ ID NO:10		MDSAAGGGGLTAIRLPYRHLR-DAEMELVSLN----	GGTPRGGSPKDPDATHQ-QGPPA	
SEQ ID NO:12		ME-----	-----EPQ-----	
SEQ ID NO:14		MEP-----	-----LSSTKH-----NNLSKPSSLHTEAPP-	
SEQ ID NO:16		AR-----	-----	
SEQ ID NO:18		-----	-----	
SEQ ID NO:20		MARG-----	GG-----NGEVEL-----SVGVGGGG--GAAGGGEQPAVD-	
SEQ ID NO:22		MARG-----	GG-----NGEVEL-----SVGVGGGA--GA-GGADAPAVD-	
SEQ ID NO:24		-----	-----GSDAARPKEEQSGGAGAGEGG	
SEQ ID NO:25	(gi 2969887)	RSRVSLRLLLRVSACGIQFGWALQLSLLTPYVQELGIPHAWSIIWLCPISGLLVQP		120
SEQ ID NO:26	(gi 2723471)	APISLGRLLISGMVAGGVQYGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGMVVQP		
SEQ ID NO:27	(gi 542020)	PNSSPLRKVMVVASIAAGIQFGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGMVVQP		
SEQ ID NO:28	(gi 1935019)	LEPSPLRKIMVVASIAAGVQFGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGMVVQP		
SEQ ID NO:2		VAPISLGRLLIAGMVAGGVQYGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGLVVQP		
SEQ ID NO:4		-----	-----	
SEQ ID NO:6		VAPISLGRLLIAGMVAGGVQYGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGLVVQP		
SEQ ID NO:8		-----	HEIT-----	
SEQ ID NO:10		ARTTTTRKLVLACMVAAGVQFGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGLVVQP		
SEQ ID NO:12		PGSPPLRKIMLVSSMAAGIQFGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGLVVQP		
SEQ ID NO:14		PEASPLRKIMVVASIAAGVQFGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGLVVQP		
SEQ ID NO:16		-----	GW-----	
SEQ ID NO:18		-----	-----	
SEQ ID NO:20		---ISLGRLLIAGMVAGGVQYGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGLVVQP		
SEQ ID NO:22		---ISLGRLLIAGMVAGGVQYGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGLVVQP		
SEQ ID NO:24		MKGAPKRWVVLACMVAAGVQFGWALQLSLLTPYVQTLGLSHALTSMWLCGPIAGLVVQP		

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

121	IVGHMSDQCTSKYGRRRRPFIVAGGTAIIIAVIAHSAADIGLLGDT---	AD----	NKTM
2969887)	CVGLYSDRCTSKWGRRRPYILTGCVLICLAVVVGFSADIGYAMGDTKEDCSVYHGSRWH		
2723471)	IVGYHSDRCTSRFGRRRPFIAAGAAFAVAIAVFLIGYAADLGHLSGDSLDK-S----		PKTR
542020)	IVGYHSDRCTSRFGRRRPFIAAGSIAVAIAVFLIGYAADLGHSGFSGSLDQ-K----		VRPR
1935019)	LVGLYSDRCTSRWGRRRPFILTGCMLICVAVIVVGFSSDIGAALGDTKEHCSLYHGPRWH		

	LVGLYSDCTARWGRRRPFILIGCMLICLAVIVVGFSSDIGAALGDTKEHCSLYHGPRWH		

	-----ASIAAVALTVGFSADLGRIFGDSITPGS----		TRLG
	CVGVWSDKCRSKYGRRRRPFILAGCLMICFAVTLIGFSADLGYILGDTTEHCSTYKGRSFR		
	IVGYSSDRCQSRFGRRRPFILAGSLAVAIAVFLIGYAADIGHAAGDNLQ-K----		TRPR
	IVGYHSDRCTSRFGRRRPFIAAGSLAVAIAVFLIGYAADLGHMFSGSLAK-K----		TAPR

	CVGLYSDKCTSRWGRRRPFILTGCILICIAVVVVGFSADIGAGLGSKEECSLYHGPRWH		
	CVGLYSDKCTSRWGRRRPFILTGCILICIAVVVVGFSADIGAALGSKEECSLYHGPRWH		
	CVGVWSDKCRSKYGRRRRPFILAGCVLICAAVTLVGFSADLGYMLGDTTEHCSTYKGLRYR		

181	240
AI	AI
IV	IV
AV	AV
IG	IG
FW	FW
IL	IL
LD	LD
VN	VN
AN	AN
NT	NT
TV	TV
QG	QG
PC	PC
RA	RA
LL	LL
AD	AD
LT	LT
GC	GC
NR	NR
AR	AR
TR	TR
VA	VA
NA	NA
VF	VF
SL	SL
FM	FM
AI	AI
GN	GN
VL	VL
GF	GF
W	W
LL	LL
DF	DF
SN	SN
NT	NT
TV	TV
QG	QG
PC	PC
RA	RA
LL	LL
AD	AD
LT	LT
GC	GC
NR	NR
AR	AR
TR	TR
VA	VA
NA	NA
VF	VF
SL	SL
FM	FM
AI	AI
GN	GN
VL	VL
GF	GF
W	W
LL	LL
DF	DF
SN	SN
NT	NT
TV	TV
QG	QG
PC	PC
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AD	AD
LT	LT
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NR	NR
AR	AR
TR	TR
VA	VA
NA	NA
VF	VF
SL	SL
FM	FM
AI	AI
GN	GN
VL	VL
GF	GF
W	W
LL	LL
DF	DF
SN	SN
NT	NT
TV	TV
QG	QG
PC	PC
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AD	AD
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VF	VF
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TR	TR
VA	VA
NA	NA
VF	VF
SL	SL
FM	FM
AI	AI
GN	GN
VL	VL
GF	GF
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LL	LL
DF	DF
SN	SN
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TV	TV
QG	QG
PC	PC
RA	RA
LL	LL
AD	AD
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NR	NR
AR	AR
TR	TR
VA	VA
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VF	VF
SL	SL
FM	FM
AI	AI
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GF	GF
W	W
LL	LL
DF	DF
SN	SN
NT	NT
TV	TV
QG	QG
PC	PC
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AD	AD
LT	LT
GC	GC
NR	NR
AR	AR
TR	TR
VA	VA
NA	NA
VF	VF
SL	SL
FM	FM
AI	AI
GN	GN
VL	VL
GF	GF
W	W
LL	LL
DF	DF
SN	SN
NT	NT
TV	TV
QG	QG
PC	PC
RA	RA
LL	LL
AD	AD
LT	LT
GC	GC

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241
SEQ ID NO: 25 (gi 2969887) AYSGWYKVPFSLTSSCTINCANLKSIFYIDIIFIILITTYISISAAKERPRISSQDGP-----300
SEQ ID NO: 26 (gi 2723471) STNNWHKWFPFLKTRACCEACANLKGAFVAVFLSLCLVITLIFAKEVPFKGNAA-----
SEQ ID NO: 27 (gi 542020) AYTHLYKLFPPFTKTTACDVVCANLKSCTFFISIVLLSLTLVLSLYVKEKPSWDQAVD--
SEQ ID NO: 28 (gi 1935019) AYSKLYHVPFPTKTKACNVVCANLKSCTFFSLTALLTVLATSALIYVKETALTPEKTVV--
SEQ ID NO: 2 STNNWHKWFPFLKTSACCEACANLKGAFVAVFLVCLTTLTIFAKEVPYRANEN-----
SEQ ID NO: 4 -----
SEQ ID NO: 6 STNNWHKWFPFLMTNACCEACANLKGAFVAVFLIMCLTITLFFAKEVPYRGNQN-----
SEQ ID NO: 8 AYSGWYKIFPFTVTPSCSTSCANFKSAFLDIIILVVTTCTIVASV-----QEPQ--
SEQ ID NO: 10 ASGNWHKWFPFLMTRACCEACSNLKAFLVAVVFLFCMSVTLYFAEEIIPLEPTDAQRLS
SEQ ID NO: 12 SYDGLHRLFPFTEACNVFCANLKSCTFFAIVLLVLTLLVITVKETPYTPKAKE--
SEQ ID NO: 14 SYSGLHNVFPFTKTKACDVVCANLKSCTFFSLIALLTLSTIALTYVKEKTVSSEKTVR--
SEQ ID NO: 16 -----
SEQ ID NO: 18 -----
SEQ ID NO: 20 STNNWHKWFPFLRTRACCEACANLKGAFVAVLVLAFCLVITVIFAKEIPYKAIAP-----
SEQ ID NO: 22 STNNWHKWFPFLRTRACCEACANLKGAFVAVLVLAFCLVITVIFAKEIPYKAIAP-----
SEQ ID NO: 24 ASGNWHKWFPFLMTRACCEACGNLKAFLIAVVFLFCMAVTLTYFAEEIIPLEPKDAQQLS

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[illegible]

[illegible]

SEQ	ID	NO:25	(gi 2969887)	361	420
SEQ	ID	NO:25	(gi 2969887)	----	-----LWELFGTFRLLPGSVVILLVLTCLNWIWGFPPILFDTDMGREIYGGEPNQ----
SEQ	ID	NO:26	(gi 2723471)	P----	-----LAVLKGFRNLPTGMPSVLIVTGLTWLSWFPFILIYDTDMGREIYHGDPKGTDPOI
SEQ	ID	NO:27	(gi 542020)	----	-----GELGAFKNLKRPMWILLVLTCLNWIWAFPFLLFDTDMGREVYGGDSSGSAEQL
SEQ	ID	NO:28	(gi 1935019)	----	-----GQLSGAFKELKRPMWILLVLTCLNWIWAFPFLLFDTDMGREVYGGTVGEGHA----
SEQ	ID	NO:2		P----	-----LAVLKGFKDLPGPSVLLVTAITWLSWFPFILIYDTDMGREIYHGDPKGSNAQI
SEQ	ID	NO:4		----	-----
SEQ	ID	NO:6		P----	-----LAVLKGFKNLPTGMPSVLLVTGLTWLSWFPFILIYDTDMGREIYHGDPKGSNAQI
SEQ	ID	NO:8		----	-----LWELFGSFYFTLPVMVLIVTALTWIGWFPFILFDTDMGREIYRGSPDDPSITQ
SEQ	ID	NO:10		PGAVLVNILTSMRHLP	PGMYSVLLVMALTWLSWFPFLLFDTDMGREVYHGDPNGLNSER
SEQ	ID	NO:12		----	-----CGELCLAFKGLKRPMWMLVTAVNWIWAFPYFLFDTDMGREVYGGDVGQ----
SEQ	ID	NO:14		----	-----GQLFGAFRELKRPMWILLVLTCLNWDCLVPFLLFDTDWD-----
SEQ	ID	NO:16		----	-----
SEQ	ID	NO:18		----	-----AGMPSVLLVTGLTWLSWFPFILIYDTDMGREIYHGDPKGTPDEA
SEQ	ID	NO:20		P----	-----LAVFKGFKNLPP--NPSVLLVTGLTWLSWFPFILIYDTDMGREIYHGDPKGTPDE
SEQ	ID	NO:22		P----	-----LAVFKGFKNLPPGMPSVLLVTGLTWLSWFPFILIYDTDMGREIYHGDPKGTPDEA
SEQ	ID	NO:24		PGAVLVKILTSMRHLP	PGMYSVLLVMALTWLSWFPFLLFDTDMGREVYHGDPKGNASER

421	SEQ ID NO: 25	(gi 2969887)	S---	YSDGVRMGAFGLMMNSVVLGITSVLMEKLCRIWGS	G-FMWGLSNILMTICF-FAML
	SEQ ID NO: 26	(gi 2723471)	--EAFNQVRAGAFGLLLNSIVLGFSSFLIEPMCRKVGP-RVVWVTSNFLVCIAMAAATL		
	SEQ ID NO: 27	(gi 542020)	--KLYDRGVRAGALGMLNSVVLGFTSLGVEVLARGVGGVKRLGIVNFVLAIVCLAMTVL		
	SEQ ID NO: 28	(gi 1935019)	----YDMGVREGALGMLNSVVLGATSLGVDILARGVGGVKRLGIVNFLLAICLGLTVL		
	SEQ ID NO: 2		--SAFNEGVRGAFGLLLNSVILGFSSFLIEPMCRKVGP-RVVWVTSNFMVCVAMAATL		
	SEQ ID NO: 4		-----		
	SEQ ID NO: 6		--SAFDEGVRVGSFGLLLNSIVLGFSSFLIEPMCRKVGP-RVVWVTSNFMVCVAMAATL		
	SEQ ID NO: 8		S---YHDGVRMGSEGLMNSVLLGFTSIVLEKLCRKWGAG-LVWGSNILMALCF-VAML		
	SEQ ID NO: 10		--KAYDNGVREGAFGLLLNSVVLGIGSFVDPLCRMGA-RLVWAIISNFTVFCIMLATAI		
	SEQ ID NO: 12		--KAYDSGVHAGSLGLMNAVVLAVMSLAI EPLGRVVGGIKWLGVINILLAIICLGMTVL		
	SEQ ID NO: 14		-----WGVR-----CTE-----		
	SEQ ID NO: 16		-----LGGVKRLWGGINFLLAIVCLAMTVV		
	SEQ ID NO: 18		--NAFQAGVRAGAFGLLLNSVVLGFSSFLIEPLCKRLGP-RVVWVSSNFLVCISMAAICI		
	SEQ ID NO: 20		--ANAFQAGVRAGAFGLLLNSVVLGFSSFLIEPLCKRLG-PRVVWVSSNFLVCLSMAAIC		
	SEQ ID NO: 22		--NAFQAGVRAGAFGLLLNSVVLGFSSFLIEPLCKRLGP-RVVWVSSNFLVCLSMAAICI		
	SEQ ID NO: 24		--KAYDDGVREGAFGLLLNSVVLGIGSFIDPLCRMIGA-RLVWAIISNFTVFCACMLATTI		

601	621
RRPRVD-KSRLH-----H-	RRPRVD-KSRLH-----H-
PKISK-----RQFWSVMGGGH-	PKISK-----RQFWSVMGGGH-
PSPQDMP-SAKALT-AAFH-	PSPQDMP-SAKALT-AAFH-
PSPPPDMAKSVSATG-GGFH-	PSPPPDMAKSVSATG-GGFH-
PKISK-----RQFRAVS-AGGH-	PKISK-----RQFRAVS-AGGH-
PKLSN-----S-YQSAGFHGF-	PKLSN-----S-YQSAGFHGF-
PKISK-----RQFRAVS-AGGH-	PKISK-----RQFRAVS-AGGH-
PRARIASRRRGH-----R-	PRARIASRRRGH-----R-
PKLPN-----S-YRSAGFHGF-	PKLPN-----S-YRSAGFHGF-
PTPKKADEVRASSLNMGSLH-	PTPKKADEVRASSLNMGSLH-
-----FR-	-----FR-
PSPPPDVVLK--VSGGGMH-	PSPPPDVVLK--VSGGGMH-
PKISR-----RQFRAVS-GGGH-	PKISR-----RQFRAVS-GGGH-
LPKIS-----RRQFRAV-SGGGH	LPKIS-----RRQFRAV-SGGGH
PKISR-----LQFRAVS-GGGH-	PKISR-----LQFRAVS-GGGH-
PKLSN-----N-YQSAGFH-MG-	PKLSN-----N-YQSAGFH-MG-